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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/770,938	02/03/2004	Clinton R. Vedders	075949.0115	1628

5073 7590 07/07/2006

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EXAMINER	
LUKS, JEREMY AUSTIN	
ART UNIT	PAPER NUMBER
2837	

DATE MAILED: 07/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/770,938	VEDDERS, CLINTON R.	
	Examiner	Art Unit	
	Jeremy Luks	2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 15 and 30 are objected to because of the following informalities: The Drawings and Specification contain no disclosure of the claimed subject matter of these claims. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 16, 17, 22 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Thompson (5,154,254).

With respect to Claims 1, 5, 16 and 23, Thompson teaches an accelerated weight drop for use as a seismic energy source (Figure 1, #10), comprising a striker (24) positionable over a surface, and a strike plate (12) positionable between said striker (24) and said surface wherein said striker (24) is configured to strike said strike plate (12); and a compressed gas spring (16), said striker (24) slidably coupled to said compressed gas spring (16), said compressed gas spring (16) configured to drive said striker (24) toward said surface thus creating seismic waves within said surface.

With respect to Claims 2 and 17, Thompson teaches said compressed gas spring (Figure 1, #16) includes a gas chamber (18) and a piston (22), wherein said piston (22)

is configured to slide within said gas chamber (18) to compress a gas therein to create a pressure that drives said striker (24) toward said surface (Col 3, Lines 16-26).

With respect to Claims 3, 4 and 22, Thompson teaches a charging port (Figure 1, # 36) coupled to said gas chamber (18), said charging port (36) configured to provide said gas within said gas chamber (18) (Col. 3, Lines 52-56); further, a push rod (Figure 2, #22 lower end) connects said piston (#22 upper end) to said striker (24). The Examiner considers the lower end of the piston, #22 to be a push rod (Col. 3, Lines 16-26).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 6, 9, 10-15, 18, 24-30 rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson (5,154,254) in view of Airhart (4,402,381).

With respect to Claims 6 and 24, Thompson teaches said striker (Figure 1, #24) coupled to said gas spring (16). Thompson fails to teach a housing surrounding the striker assembly. Airhart teaches a housing (Figure 2, #12) surrounding a striker assembly (20, 62). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Thompson with the apparatus of Airhart to protect the internal components from the weather and nature.

With respect to Claims 9, 11, 25 and 26, Airhart teaches wherein said housing (Figure 2, #12) is coupled to a static load and is configured to transfer said static load (60) to a strike plate (14) (See progression of #50 and #60 between Figure 1 and Figure 2); and an impact isolator (Figure 1, #50) coupled to said housing (12) and slidably coupled to said strike plate (14) (See sliding progression of #50, via #60 between Figure 1 and Figure 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Thompson with the apparatus of Airhart to transfer as much of the impact load to the striker plate as possible.

With respect to Claims 10 and 29, Airhart teaches a hydraulic press (Figure 2, #16) coupled to said housing (12), said hydraulic press (16) configured to create said static load (Figure 1, #60) (Col. 2, Lines 33-35). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Thompson with the apparatus of Airhart to transfer as much of the impact load to the striker plate as possible with a means capable of actuating the assembly with ample power.

With respect to Claims 12, 13, 27 and 28, Thompson teaches an anvil coupled to the strike plate (12). The Examiner considers the smaller, upper portion of strike plate, #12 to be an anvil. Thompson fails to teach an impact isolator comprising a plate having a slot formed therein, wherein a length of said slot is positioned substantially in line with a line of impact of said striker, and a pin therein coupled to said strike plate, wherein said pin is slidably coupled within said slot. Airhart teaches said impact isolator (Figure 1, #50) comprising a plate having a slot formed therein, wherein a length of said

slot is positioned substantially in line with a line of impact of a striker (62), and a pin (60) therein coupled to said strike plate (14), wherein said pin is slidably coupled within said slot (See sliding progression of #50, via #60 between Figure 1 and Figure 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Thompson with the apparatus of Airhart to transfer as much of the impact load to the striker plate as possible.

With respect to Claims 14 and 18, Thompson teaches a push rod (Figure 2, #22 lower end) connects said piston (#22 upper end) to said striker (24). The Examiner considers the lower end of the piston, #22 to be a push rod (Col. 3, Lines 16-26). Further, Thompson teaches wherein said piston (22) is configured to slide within said gas chamber (18) to compress a gas therein to create a pressure that drives said striker (24) toward said surface (Col 3, Lines 16-26). Thompson fails to teach a hydraulic lift coupled to said striker, said hydraulic lift configured to lift said striker to a cocked position. Airhart teaches a hydraulic lift (Figure 2, #16) coupled to said striker (62), said hydraulic lift (16) configured to lift said striker to a cocked position.). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Thompson with the apparatus of Airhart to lift the striker with a means powerful enough to do so.

With respect to Claims 15 and 30, Thompson teaches a compressed gas spring (Figure 2, #16) slidably coupled coupled to said striker (24). Thompson fails to teach a multiple of springs. Airhart teaches multiple of springs (Figure 1, #16). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the

apparatus of Thompson with the apparatus of Airhart to lift the striker with a means powerful enough to do so.

4. Claims 7, 8 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson (5,154,254) in view of Airhart (4,402,381) as applied to claims 6 and 18 above, and further in view of Fehr (2003/0127227). Thompson and Airhart are relied upon for the reasons and disclosures set forth above. Airhart further teaches the housing (Figure 2, #12) and is configured to cooperatively engage said striker (62) in a cocked position, and releasing a locking mechanism (42) causes said striker (62) to drive toward said surface. Thompson and Airhart fail to teach a locking or catch mechanism is a biased dog. Fehr teaches a catch mechanism is a biased dog (Page 2, [0013]). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Thompson as modified, with the apparatus of Fehr to lock the striker in a cocked position during transport or prior to use.

5. Claims 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson (5,154,254) in view of Kostrov (2003/0201101). Thompson teaches an accelerated weight drop for use as a seismic energy source (Figure 1, #10), comprising a striker (24) positionable over a surface, and a strike plate (12) positionable between said striker (24) and said surface wherein said striker (24) is configured to strike said strike plate (12); and a compressed gas spring (16), said striker (24) slidably coupled to said compressed gas spring (16), said compressed gas spring (16) configured to drive said striker (24) toward said surface thus creating seismic waves within said surface. Thompson fails to teach at least one geophone placed proximate said surface, said at

least one geophone configured to collect seismic waves; and information from said seismic recorder connected to said at least one geophone, said seismic recorder configured to record said collected information. Kostrov teaches at least one geophone (Figure 8, #215) placed proximate a surface, said at least one geophone (215) configured to collect seismic waves; and information from said seismic recorder connected to said at least one geophone, said seismic recorder configured to record said collected information (Page 8, [0111]). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Thompson as modified, with the apparatus of Kostrov to provide receiving and recording means for the seismic waves produced by the apparatus of Thompson.

6. Claims 34 and 36-39 rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson (5,154,254) in view of Kostrov (2003/0201101) as applied to claims 31-33 above, and further in view of Airhart (4,402,381).

With respect to Claim 34, Thompson and Kostrov are relied upon for the reasons and disclosures set forth above. Thompson further teaches a striker (Figure 1, #24) coupled to said gas spring (16). Thompson and Kostrov fail to teach a housing surrounding the striker assembly. Airhart teaches a housing (Figure 2, #12) surrounding a striker assembly (20, 62). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Thompson as modified, with the apparatus of Airhart to protect the internal components from the weather and nature.

With respect to Claims 36 and 37, Airhart teaches wherein said housing (Figure 2, #12) is coupled to a static load and is configured to transfer said static load (60) to a strike plate (14) (See progression of #50 and #60 between Figure 1 and Figure 2); and an impact isolator (Figure 1, #50) coupled to said housing (12) and slidably coupled to said strike plate (14) (See sliding progression of #50, via #60 between Figure 1 and Figure 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Thompson as modified, with the apparatus of Airhart to transfer as much of the impact load to the striker plate as possible.

With respect to Claims 38 and 39, Thompson teaches an anvil coupled to the strike plate (12). The Examiner considers the smaller, upper portion of strike plate, #12 to be an anvil. Thompson fails to teach an impact isolator comprising a plate having a slot formed therein, wherein a length of said slot is positioned substantially in line with a line of impact of said striker, and a pin therein coupled to said strike plate, wherein said pin is slidably coupled within said slot. Airhart teaches said impact isolator (Figure 1, #50) comprising a plate having a slot formed therein, wherein a length of said slot is positioned substantially in line with a line of impact of a striker (62), and a pin (60) therein coupled to said strike plate (14), wherein said pin is slidably coupled within said slot (See sliding progression of #50, via #60 between Figure 1 and Figure 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Thompson as modified, with the apparatus of Airhart to transfer as much of the impact load to the striker plate as possible.

7. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson (5,154,254) in view of Kostrov (2003/0201101), in view of Airhart (4,402,381) as applied to Claim 34 above, and further in view of Fehr (2003/0127227). Thompson and Kostrov are relied upon for the reasons and disclosures set forth above. Airhart teaches a housing (Figure 2, #12) configured to hold said striker (62) in a cocked position. Airhart fails to teach a catch mechanism. Fehr teaches a catch mechanism or locking dog (Page 2, [0013]). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Thompson as modified, with the apparatus of Fehr to lock the striker in a cocked position during transport or prior to use.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pertinent arts of record relating to accelerated weight drops for use as a seismic energy source and a method of operation thereof are disclosed in the PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy Luks whose telephone number is (571) 272-2707. The examiner can normally be reached on Monday-Thursday 8:30-6:00, and alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on (571) 272-1988. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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